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Abstract

RESEARCH REACTOR PROGRESS IN PAKISTAN

**Dr. S. Ahmed Hasnain, Principal Scientific Officer,
Pakistan Atomic Energy Commission**

For training in reactor operation and maintenance and for research using reactors, Pakistan has so far relied heavily on facilities abroad. About 50 engineers and more than 100 scientists have had extensive training at laboratories in USA, UK, Canada and other advanced countries. Since 1961 training courses of one year duration have been conducted at the Atomic Energy Centre, Lahore, in reactor technology. A natural uranium water-moderated sub-critical assembly has been set up at Lahore and is used in conjunction with a neutron generator for steady state and time dependent reactor studies. Staff members are also engaged in research work on various problems in reactor physics and engineering.

Pakistan's first research reactor is of the pool type with a power level of 5 MW. It is under construction as part of the Pakistan Institute of Nuclear Science and Technology (PINSTECH) at Nilore, Islamabad, 14 miles east of Rawalpindi. Phase-I of the Institute which has the research reactor as its central facility with five attached laboratories is to be completed by June 1965. Reactor criticality is scheduled for June 1965. Following a period of low-power tests the reactor will be available for research work at full power towards the end of 1965.

Unlike some other countries Pakistan has delayed the installation of a large research reactor until a corps of experienced scientists and engineers was available who could utilize the reactor facilities fully. When the research reactor is installed at PINSTECH in 1965 there will therefore be a sufficient number of technical persons to assure efficient utilization of the reactor. Emphasis is currently being given to the manufacture of neutron diffraction equipment and other research apparatus. A reactor oscillator is also being constructed. Arrangements for the manufacture of long- and short-lived radioisotopes for use in Pakistan are being made. Projects in radiation biology and radiation chemistry are also being finalised.